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Review Article

Dentistry Section

Oral Health Needs Including Unmet Dental Needs among Transgender Population- A Review

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ABSTRACT

Healthcare is a fundamental human right irrespective of gender, race, religion, caste, social status or the community in which they live. But transgender people are mostly victims of such barriers which eventually lead to compromised oral health. This narrative review emphasise on the oral health needs including unmet dental needs among transgender population. Search strategies were devised for each database for easy identification of the studies to be included in this review. The search strategy used a combination of controlled vocabulary and free text terms. The main electronic database used to access the studies were PubMed, PubMed Central, Cochrane Review, Embase and Google Scholar using keywords such as transgender, eunuch, dental health, oral health, etc., were used as the main electronic databases to access the studies. Exact 20 articles fulfilled this criteria and were selected for review. A high prevalence of oromucosal lesions were seen among the transgenders. High prevalence of gutkha chewing habit might be a reason for an increase in number of oral mucosal lesions. Furthermore, the review also showed that Oral Submucous Fibrosis (OSMF), leukoplakia and lichen planus were the commonly found oral mucosal lesions in the surveyed population. Awareness of brushing habits among transgenders and care towards their oral hygiene was found to be low. In the present review, it has been observed that the dental health is poor among the studied population. There is a need for oral hygiene and health awareness among transgenders as well as improvement and participation by policy makers for better delivery of health and dental facilities to them. Thus, more emphasis should be laid on research in this population group.

Keywords: Barriers, Dental caries, Dental health, Eunuch

INTRODUCTION

According to the World Health Organisation (WHO), health is defined as state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. Irrespective of distinction based on race, religion, political belief, economic or social condition health is considered as one of the fundamental right which defines enjoyment of the highest attainable standard of well being [1]. Oral health being an indicator of overall health impacts the well-being and quality of life of an individual. Poor oral health is characterised by a range of diseases and conditions that hinder the normal functioning of oral health such as dental caries, dental sensitivity issue, periodontal problems, tooth loss, oral cancers and other premalignant and benign lesions, orodental traumatic lesions and birth defects such as cleft lip and palate [2]. Our oral health is vital as it equally effects our general systemic health.

Healthcare is a fundamental human right irrespective of gender, race, religion, caste, social status or the community in which they live. Still, the transgender people compromise their access to healthcare [3]. The term "Transgender" is an umbrella term that includes transsexuals, transvestites, intersexed people, and just about anybody else who does not conform to the traditional model of sex/gender [4]. They are also known by many other synonymous terms such as transsexuals, eunuchs transvestites and as alis, kothis, hijras, panthis and double deckers vernacularly in India [5,6].

Avoidance or delay in receiving oral healthcare or involvement in selective disclosure about their transgender identity to healthcare providers is common among their communities due to fear of discrimination [3]. This leads to poor oral health as well as lack of physical and mental health outcomes. A selective disclosure will eventually result in inappropriate care or missed opportunities for preventive care. This leads to a poor oral health condition among the transgender community [3].

The general population seeks oral healthcare services based on access and affordability but still there are some groups in population that are denied access to such facilities and transgenders are one of them [7]. Dental caries and chronic periodontitis are the most common dental diseases and chronic negligence in seeking dental care typically leads to tooth loss [8]. Chronic periodontal pathology is a major public health problem due to its high prevalence and social impact [9]. Failure to provide adequate treatment and care for oral diseases can lead to tooth loss and hence, negatively affects the quality of life leading to inability to chew, speak and also results in unpleasant esthetics [9]. Periodic oral health screening also aids in the early diagnosis of periodontal and dental caries, and minimises the negative effects of these diseases and also to promote oral health care [10,11].

Globally oral malignancies are considered as the sixth most common cancer. When compared to general population, transgender people are about 49 times at higher risk of living with Human Immunodeficiency Virus (HIV) [12]. The social stigma and transphobia related to HIV create barriers to access of HIV testing and treatment services by this community [12]. These groups are also prone to indulge in peer influenced harmful activities that could debilitate their health status [10]. Stigmatizing these individuals could create undue stress which leads to a deteriorated oral cavity [13]. They are victims to denial of general as well as oral health and psychological assistance. The availability of medical and dental healthcare facility in India is almost meagre for transgender population. This may lead to the peril for this abandoned special group of population who led them to stress and indulge them in habits like *gutkha-pan* chewing, alcoholism and other pernicious habits [12]. Infections such as viral, bacterial or fungal, local trauma or irritation due to burn, sharp tooth or unfit prosthesis, systemic disease or lifestyle related factors such as consumption of tobacco or alcohol will lead to oral mucosal lesions. OSMF, leukoplakia and lichen planus were the commonly found oral mucosal lesions found in population surveyed among the transgender community [14].

In order to maintain the oral health related quality of life among transgender population, dental health professionals recommend prosthetic treatment to treat tooth loss [15]. Transgenders are an important and integral part of our society yet remain neglected in many aspects. They are socially deprived and neglected group who has to struggle for even basic medical and dental healthcare facilities [4]. Moreover, there is a scarcity of such facilities available to them resulting in more worsen dental health conditions.

It has been observed that there are relatively few studies present evaluating the oral health status of transgender population and also there is no comprehensive review for the same [10,13]. So, this review will help the dental clinicians in knowing the available information regarding the dental health considerations among transgenders. The aim of this review is to evaluate the dental health considerations among transgender population and estimate the unmet need for dental caries, periodontal conditions, prosthetic care and oromucosal lesions among the transgender population surveyed.

LITERATURE SEARCH

The present review used a combination of controlled vocabulary and free text terms as the search strategy. PubMed, PubMed Central, Cochrane Review, Google Scholar and Embase were the main electronic databases used to access the studies. In order to obtain additional relevant publications, a search was performed manually from the list of references of all primary studies. We included cross-sectional studies that assessed the outcomes as oral health among transgenders. These articles published in English language dated from 2006 to 2020 were included in this review. Original research articles, in-vivo studies, questionnaire surveys and the articles emphasising on the dental health among transgenders were included. Narrative reviews, case reports, case series and unpublished articles in press, personal communications were excluded. Papers with full-text versions which met the inclusion criteria were considered for further assessment and extraction of data.

Tables were formulated with the following extracted information: author/year, title, country, study design, sample size, characteristics and source of the study population, outcome and study findings which were demographic factors, status of caries, periodontal, prosthetic and perceived needs. Twenty studies were included to analyse the oral health needs including unmet dental needs among transgender population. The summary of the results has been provided in [Table/Fig-1] [10,14-32].

Authors	Study objective	Place of study	*N*	Age group (years)	Duration	Type of study	Results	Conclusion
Sarvannan N et al., (2006) [16]	Assessment of oral health status and treatment needs of eunuchs of Chennai city	Chennai	137	17 to 60	October 2004	Cross-sectional study	Following prevalence was found in study subjects: Dental Caries- 69.3%, missing teeth 23.4%, Leukoplakia lesion- 1.5%, OSMF 0.7%. Prosthesis for upper arch was 6.6% and prosthesis in lower arch was 0.7%	High *gutkha* chewing habits among eunuchs might be the reason for high prevalence of oral mucosal lesion
Sarvannan N et al., (2014) [17]	Assessment of the periodontal status and measures to improve the periodontal condition of eunuch in Chennai city	Chennai	137	17 to 60	October 2004	Cross-sectional study	About 5.73% had vivid stages of periodontal diseases and loss of periodontal attachment was present in 16.8% population	Transgender population had a poor periodontal status
Hongal S et al., (2014) [18]	Assessment of oral health-related knowledge, attitude and practices among eunuchs in Bhopal city, Madhya Pradesh, India	Bhopal city, Madhya Pradesh, India	207	Not Specified	April to June 2013	Cross-sectional study	Consumption of sweet/wafers/ biscuits/cakes causes tooth decay was felt by a majority of 157 (75.8%) eunuchs. About 107 (51.7%) eunuchs said that they would had removed the tooth to treat a deep painful decay. Majority of 205 (99%) used tooth paste or tooth powder for brushing and smokeless tobacco containing products such as betel nut, betel quid, gutkha, etc., was consumed by about 113 (54.6%) subjects	To improve the oral and general health of the eunuch population, awareness about oral effects of tobacco use and cessation of this habit is important
Hongal S et al., (2014) [15]	Assessment of dental prosthetic status and needs among eunuchs population of Bhopal city, Madhya Pradesh, India	Bhopal city, Madhya Pradesh, India	207	Mean Age - 36.86±12.5	April to June 2013	Cross-sectional study	About 2.9% (6/207) eunuchs had prosthesis. It was observed that eunuchs required more multiunit prosthesis	High unmet need for prosthetic care among the surveyed eunuch population was found
Torwane NA et al., (2014) [19]	Asessment of the periodontal status among eunuchs population of Bhopal city, Madhya Pradesh, India	Bhopal city, Madhya Pradesh, India	207	Not Specified	April to June 2013	Cross-sectional study	Prevalence for bleeding gums- 17.4%, for shallow pocket- 22.7% and for deep pocket- 9.7%. About 10.1% of eunuchs had attachment loss of 6-8 mm and 6.3% eunuchs had attachment loss of 12 mm or more	There was a poor periodontal status among eunuchs, indicated that comprehensive oral hygiene instruction and dental prophylaxis was required
Torwane NA et al., (2015) [14]	Assessment of the prevalence of Oral mucosal lesions among both males and females and eunuchs population of Bhopal city, Madhya Pradesh India	Bhopal city, Madhya Pradesh, India	207	Mean age- 37.7	April to June 2013	Cross-sectional study	About 113 (54.6%) had habit of smokeless tobacco, among which 28.5% eunuch had mucosal lesions and 5.8% had traumatic ulceration	Common oral mucosal lesions found in the eunuch population were OSMF, leukoplakia, and lichen planus
Heima M et al., (2017) [20]	Dental fear among transgenders and investigation of specific predictors of dental fear among these population	Midwestern United States	70	18 to 76	January 2016 to June 2016	Web survey	About 59 (85.5%) of transgenders had at least one instance of maltreatment and 10 (14.2%) had "Very much" or "Extremely" fearful of experience for maltreatment in a dental clinic	Oral health care providers should do a proper evaluation and management of the levels of dental fear among patients who identified as transgender

Nagarajan M et al., (2017) [21]	To study the prevalence of loss of teeth among gay, bisexuals and transgenders populations in Karaikal	Karaikal	440	18 to 52	Not Specified	Cross-sectional study	Loss of teeth (Partial Edentulism) was found in 64% of transgender	Appropriate intervention at early stages of the dental caries and periodontal disease will reduce the loss of tooth in future
Peeran SW et al., (2017) [22]	Analysing the oral hygiene status and periodontal conditions of eunuchs population in Chennai, Tamil Nadu, India	Chennai, Tamil Nadu, India.	165	28 to 35	Not Specified	Cross-sectional study	Mean value of Oral hygiene index (simplified) = 2.69, Calculus index = 2, Clinical attachment loss (CAL) =2.39 mm and Pocket depth (PD) =2.41 mm	The oral hygiene and periodontal status of eunuchs needed professional care
Samuel SR and Muragaboopathy V (2018) [23]	Association between high risk transgender HIV status, self perceived barriers to oral care, and the residents' stigma and willingness to treat during community dental outreach	Chennai	212	Mean age group- 28.6±5.5	June 2016 to November 2016	Cross-sectional study	Overall 93.3% had tobacco habit (82.4% chewed and 17.6% used smoke and smokeless tobacco), 4.18 mm was the mean pocket depth, 2.53 was the mean number of untreated caries and teeth indicated for extraction was 1.14	Transgender had a poor self-perceived oral health corresponding to its clinical examination findings
Muralidharan S et al., (2018) [10]	Assessment of prevalence of dentition status and treatment needs of men who have sex with men (MSMs) and transgenders (TGs) and its correlation with the oral health-related quality of life in Pune, India	Pune, India	270	18 to 54	Not Specified	Cross-sectional study	About 188 (69.6%) out of 270 had dental caries, 40 (14.8%) had missing teeth and only nine (3.3%) had some form of restoration. Only 80 (29.6%) had ever been to a dentist due to some problem	MSMs and TGS had altered quality of life with respect to dental caries that required an intervention that is tailor-made to meet the needs of this group
Greene MZ et al., (2018) [24]	To understand variations across disciplines in address to lesbian, gay, bisexual, transgender, and queer (LGBTQ) health by assessment of medical, dental, and nursing students' perceptions	United States	1,010	20 to ≥30	August and November 2014	Cross-sectional study	1,010 responded to the survey from which 70±74% felt comfortable treating LGBTQ patients, fewer than 50% agreed that their formal training had prepared them to do so. Dental students were significantly less likely than medical students to report interest for formal training of LGBTQ health education	Formal content on LGBTQ health should be present in Health professional schools and proper utilization of this content as an opportunity for inter professional training should be done
Ovia M et al., (2019) [25]	Assessment of the oral hygiene status of transgenders in Chennai city	Chennai city	96	30 to 50	Not Specified	Cross-sectional study	78% transgender community brush only once per day and nearly 76% of them suffer from dryness of mouth. 69% of them have swollen gums and 63% had toothache very often	Transgenders had a lack of awareness about brushing habits and care toward their oral hygiene was low.
McDonald DW et al., (2019) [26]	To evaluate how transgender and gender nonconforming adolescents and young adults face their oral health care providers	Cincinnati Children's Hospital, Cincinnati, Ohio.	20	14 to 24	Not Specified	Cross - sectional study	Positive experiences with their oral health care providers were reported by these population. Those with negative experiences reported that the problems were corrected rapidly. Some participants reported issues processing insurance	Oral health care providers should make minor modifications to improve experience and reduce stress and anxiety related to gender identity among the population in a health care setting
Akshaya K et al., (2019) [27]	EvaluatIon of knowledge, attitude, and practices on brushing habits among transgenders in Chennai city	Chennai city	96	30 to 50	20 days in November 2017	Cross - sectional study	81% transgender community used to brush only once per day and nearly 76% of them never had regular visit to the dentist. 53.3% never used tongue scraper and 63% of them did not use floss regularly.	Awareness toward brushing habits and care toward their oral hygiene was low among transgenders
Sivaranjani KS et al., (2019) [28]	To estimate stress among transgenders in terms of Perceived Stress Scale (PSS) and cortisol levels in saliva and periodontal status by means of Probing Pocket Depth (PPD) and Clinical Attachment Level (CAL)	Puducherry and Cuddalore	75	Mean age- 31.63±8.5	Not Specified	Cross-sectional study	A strong positive correlation was observed between mean cortisol levels and periodontal parameters assessed (probing depth and cortisol r=0.592, p<0.001 clinical attachment loss and cortisol levels r=0.618, p<0.001	High perceived stress as per the PSS scale scores and a positive correlation of PSS scale scores with salivary cortisol levels was found
Sagana M et al., (2020) [29]	To assess the knowledge on partially edentulous condition among transgender population residing in Chennai	Chennai	96	30 to 50	Not Specified	Cross-sectional study	About 75% of transgender community had missing tooth. Nearly 43% of transgender felt that they had speech problem and about 71% of them felt that they had difficulty during mastication	Awareness toward the partial edentulism among transgender population was good but the care toward the personal hygiene was low.
Macdonald DW et al., (2020) [30]	They conducted a study to better understand that what transgender youth know about oral sex, related consequences, and mechanisms of protection and where they obtained this information	Transgender Clinic at Cincinnati Children's Hospital Medical Center	138	14 to 24	2017	Cross-sectional study	Most respondents felt to understood necessity of protection and consequences of oral sex but did not used protection. Over half of the participants 58% participants did notspeak to physician, dentist, or parent about oral sex	Predoctoral dental education should include the necessary skills and information to discuss safe-sex practices and disease prevention in a culturally competent manner

Marlecha RB et al., (2020) [31]	Evaluate oral health status, knowledge on oral health, and the dental utilisation barriers among the transgenders in Chennai, Tamil Nadu, India	Chennai, Tamil Nadu, India	72	Mean and standard deviation of the age of the population is 34.21 and 14.093, respectively	Not specified	Cross-sectional study	The mean decayed, missing, filled components were 1.89 and 1.773, 0.83 and 2.664, and 0.15 and 0.522, respectively. 60% participants had never visited the dentist	Immediate intervention of dental institutions and government bodies required to raise oral health quality among the transgenders
Macdonald DW et al., (2020) [32]	To determine experiences, knowledge and perceptions of oral health among young transgender and their caregivers	Transgender Clinic at Cincinnati Children's Hospital Medical Center	32	12 to 24	Not specified	Cross-sectional study	16 patients and 16 caregivers completed interviews. No connection between transitioning and oral health and TG related comorbidities were detected. Many reported abandoning self-care, including oral health practices	Transgender youth and caregivers abandoned their oral care, exhibit orally detrimental behaviors, and withhold important information from oral health providers

[Table/Fig-1]: Summary of the articles published from 2006 to 2020 showing dental considerations among transgender population [14-32].

DISCUSSION

To keep the oral cavity healthy, proper techniques and methods to maintain oral hygiene should be followed. Transgender communities are at a risk of various comorbid situations along with oral manifestations as well. Commonly encountered dental problems among transgender population reviewed in literatures were tooth decay, gum diseases such as gingivitis, periodontitis and tooth loss [14-32]. The information on how they maintain their oral health or how they make contact with oral health care providers is a big question [20]. The purpose of this review was to elicit various orodental health considerations of transgenders in this neglected community.

It was observed by Sarvannan N et al., that about 86.1% of eunuchs used a tooth brush, 11.7% used finger and 11.8% used both toothbrush and finger for oral hygiene. Similarly, in a study by Hongal S et al., 176 (85%) eunuchs cleaned their teeth with a toothbrush [16,18]. According to Akshaya K et al., 81% of the transgender community brushed only once per day. Regarding use of tongue scraper, 53% never used them at all while 47% of them rarely used them. This indicated the limited use of tongue scraper for maintaining oral hygiene. Among the studied population, 36% brushed for two to three minutes, 54% of them brushed according to their convenient timing and 10% of them brushed hardly a minute. This proved that their attention was relatively based on their moods and preferences [27]. Hongal S et al., reported that 49% transgenders elicited no special attention to clean back and side surfaces of their tooth thus being more prone to caries. Furthermore, 100% of them were not aware about electronic brushes too [18]. Oral hygiene practices such as brushing habits and care towards their oral hygiene was poor among transgenders when compared to other genders. Thus, they should be encouraged well on the maintenance of oral hygiene [18,27].

Periodontal diseases are chronic and multifactorial influenced by multiple factors which ranges from local site-specific accumulation of plaque and calculus, anatomic factors, iatrogenic factors such as faulty restorations to systemic diseases that can modify course and outcome of periodontal disease [21]. Sarvannan N et al., in their study at Chennai city, among 137 transgenders reported that there was increased bleeding from gums among 21 to 30 years aged, maximum calculus was detected in 31 to 40 years and higher age groups had 4-5 mm and 6 mm periodontal pockets [16]. Similar findings were reported by Sarvannan N et al., in their study [17]. Torwane NA et al., reported a prevalence of 86.5% periodontal diseases out of the total eunuch population studied. Out of which a majority 92.8% eunuchs suffered from various forms of periodontal disease detected by Community Periodontal Index. Among eunuchs, highest prevalence 17.4% was reported for bleeding gums, 22.7% shallow pocket and 9.7% deep pockets and 21 (10.1%) eunuchs had 4-5 mm and 6-8 mm loss of attachment. Thirteen (6.3%) eunuchs had ≥12mm attachment loss [19]. Peeran SW et al., reported that despite OHI-S scores being (2.69, $p>0.05$) lesser in eunuchs, the calculus score 2.0 was significantly higher $p<0.01$ i.e., the debris score was less in the eunuchs. The reason for this difference might be due to their lifestyle which demands for a better oral hygiene giving lesser debris scores but lack of professional care because of social stigma leads to higher calculus scores. In this reported study, the Clinical Attachment Loss (CAL) was measured using William's periodontal probe among eunuchs and it was found to be 2.39 mm [22].

Decayed, Missing and Filled Teeth (DMFT) index is used as most important index for assessing the status of oral and dental health globally [23]. In a study by Sarvannan N et al., transgender population had mean decayed teeth, missing teeth, filled teeth and mean DMFT index were 1.93, 0.89, 0.12 and 2.95, respectively that could be possibly due to the study population had higher sweet consumption (83.2%), poor oral hygiene practices (86.1%) and their frequency of dental visits (42.3%) [16]. Muralidharan S et al., reported that the total decayed teeth score was 1,262, missing teeth score was 72, filled teeth score was 38 and the overall DMFT score was 1,372. Maximum prevalence was with respect to the OHIP domains was noted for psychological discomfort, and 36.3% felt that their lives were less satisfying after the dental problems. A strong association was observed between pain, discomfort, stress, irritability and functional disability with DMFT index (decayed and missing component) [10]. Marlecha RB et. al., in their study at Chennai, Tamil Nadu, India reported that 53 subjects (73.6%) had dental caries, 20 subjects (27.8%) had missing teeth, only seven (9.7%) subjects had filled teeth. The mean and standard deviation, respectively, for decayed teeth were 1.89 and 1.773, for missing components were 0.83 and 2.664 and the filled components were 0.15 and 0.522 [31]. Probably, the reason for the same was inadequate maintenance of oral health by the studied population, low financial accessibility and lack of government attention to oral health promotion programmes on a community-basis for this population. Moreover, they must be made aware about proper technique of brushing and encouraged to follow regular dental visits also for regular check-up [31].

Tobacco affects gingival and periodontal diseases by multiple tactics like in shallow periodontal pockets there is an increased colonisation by periodontal pathogens and increased levels of periodontal pathogens in deep periodontal pockets [19]. In a study by Sarvannan N et al., in 2006, personal habits observed in transgender population were alcohol (62.8%), *gutkha* chewing (35%), tobacco (29.9%), smoking (6.6%) and *pan* chewing (5.8%) [16]. Similar findings were reported by Sarvannan N et al., in their study [17]. Hongal S et al., reported that 181 (87.4%) eunuchs had taken tobacco many times a day [19]. The higher usage of tobacco among eunuchs was correlated with occupation. Individuals who were working exhibited a greater association with the habit, as they had a feeling that it reduced tiredness as well as brought in excitement in the body after heavy labor work [14]. A study by Samuel SR et al., concluded that

93.3% of participants used some form of tobacco. High prevalence of such pernicious habits could be due to choice of occupation, low social acceptance, stress and lack of knowledge of ill-effects of tobacco [23]. Such habits could be further attributed as one of the contributory factors to the compromised periodontal status seen among the respondents. Akshaya K et al., reported that 48% of the transgenders were aware that smoking and consumption of tobacco products caused bad breath and had poor oral health related knowledge, attitude, and practices as well as high prevalence of tobacco related habits were seen among them [27]. Similarly, Samuel SR et al., at city of Pune, India conducted a study among 212 transgenders and reported that 93.3% of participants used some form of tobacco [23]. Mucosal lesions associated with tobacco use were commonly seen among adult transgenders. The incidence of a potentially oral malignant condition that is oral submucous fibrosis (OSMF) has increased manifold especially among younger generation in the South Asian regions [14]. The overall prevalence of oral mucosal lesions in a study done by Sarvannan N et al., was 29.2% with candidiasis 13.9%, ulceration 12.4%, leukoplakia 1.5%, OSMF 0.75% and lichen planus 0.7% [16]. Torwane NA et al., observed that the prevalence of oral mucosal lesions was high among eunuchs (28.5%), OSMF (10%) was the most prevalent. Prevalence of leukoplakia and traumatic ulceration were 7.7% and 5.8%, respectively. Moreover, one eunuch suffered from malignant tumour in the form of squamous cell carcinoma. In their study, buccal mucosa (17.9%) was found to be the most affected site with oral mucosal lesions and alveolar ridge/gingiva was affected in 13 (6.3%) eunuchs [14]. This indicated to increase the awareness of oral effects of tobacco use and elimination of habit, comprehensive oral hygiene instructions and dental prophylaxis to improve oral and general health of population [14].

To promote oral health, prosthetic status and a prosthetic need of the population a detailed knowledge about the same is necesary. Sarvannan N et al., at Chennai city in their study among 137 transgenders reported that the prosthetic status for upper arch was 6.6% and lower was 0.7% that might be due to the fact that only 6.6% visited to dentist for replacement of teeth and prosthetic need for upper and lower arch were 13.9% and 23.4%, respectively [16]. Whereas Hongal S et al., in their study at Bhopal city, Madhya Pradesh among 207 eunuchs reported that prosthetic status was 2.9% for upper or lower arch and the need for one unit prosthesis was mostly seen among females while eunuchs and males required more multi-unit prosthesis. This indicated a higher prevalence of multiple tooth loss among eunuchs and males [15]. Nagarajan M et al., in their study at Karaikal, Puducherry among 440 transgender sample, reported that 64% had partial loss of teeth (partial edentulism), Since these communities are deprived of oral health care because of social problems, chance of chronic dental diseases are very common [21]. Sagana M et al., observed that 75% of transgender community had missing tooth, 43% felt that they had speech problem, about 71% felt that they experienced difficulty during mastication, about 68% complained that the aesthetic appearance was affected due to the partially edentulous condition. This might be due to the fact that most of the transgenders visited dentist only when required, indicating poor attitude and practices towards oral hygiene [29]. The findings of the review demonstrated that their awareness towards partial edentulism was good but had high unmet needs for prosthetic care when compared to other genders in the population hence needs to be improved [29].

CONCLUSION(S)

In the current review, it was noted that the dental health was poor among the transgender population. Therefore, there is a need for increasing awareness toward oral hygiene and oral health for effective delivery among them. A significant factor that determines the orodental status of a person is the attitude and awareness towards dental care and dental treatment cost. To improve the oral health status, it is of utmost importance to provide oral health education, importance and benefits of dental treatment. Socially deprived communities like eunuchs cannot afford the treatment, various centres for dental treatment at low cost can be set up to render dental treatment. There is scarcity of research for oro-dental health among the transgender population. Therefore, further research is needed in future among these communities for their upliftment in the society as well as for their better health.

Accessibility to dental services as well as oral health education and counselling is necessary to ensure the optimum dental health. Regular dental awareness and screening camps should be conducted by dental institutions and also dental students must be sensitised and trained to handle such patients properly to provide good dental health care to this socially deprived group. They should be treated equally and in unbiased manner and healthy environment.

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